

REMARKS

I. Specification

Some changes were made in the specification to eliminate minor typographical errors and to correct the omission of any description of the elements 15 and 16 shown on fig. 3 from the specification.

The term "original" on pages 4 and 5 in various locations should have been "origin". This typographical error has been corrected above. Also some additional wording has been added to call attention to the difference between the terms "road or street description" and "road or street section data".

The elements 15, 16 designate the position coordinates of vehicle 7 in relation to the origin 14 of the fixed first coordinate system. A sentence has been added to the description of fig. 3 on page 12 to correct this deficiency.

II. Claim Changes

All of the original method and device claims 1 to 18 have been canceled.

Three new independent method claims 19, 26 and 32 have been added. A single new independent device claim 42 has been added.

The new independent device claim 42 includes the features and limitations of canceled device claims 12 to 14.

New independent method claim 19 includes the features of canceled claim

1 and the subject matter of canceled claim 5, namely that the vehicle position data comprises an orientation of the vehicle in relation to an origin of a fixed first coordinate system. Also dependent method claims 20, 21 & 23 to 25 have been added, containing subject matter from the canceled dependent claims. However the new limitation that the origin of the fixed first coordinate system coincides with the origin of the digital map has been added in dependent claim 22. Basis for this added limitation appears in applicants' originally filed specification on page 5, lines 2 to 4. This distinguishes the fixed first coordinate system from the coordinate system that is the basis for GPS, which returns position coordinates as latitude and longitude.

New independent method claim 26 includes the features of canceled claim 1 and some subject matter from canceled claim 6. The added subject matter from canceled claim 6 includes standing or parking space information, cycle lane information, lane quality information, building information or alternative lane guidance, but no information regarding traffic signs. Also dependent method claims 27 to 31 have been added, containing subject matter from the canceled dependent claims and also distinguishing the fixed first coordinate system from the coordinate system used in GPS.

New independent method claim 32 includes the features of canceled claim 1 and some subject matter of canceled claim 6. The added subject matter from canceled claim 6 includes a course of the at least one road or street section (8) relative to the vehicle (7), a spacing (10) between a vehicle longitudinal axis (L) and a street or road edge (E), a width (12) of the at least one street or road

section (8), a number of lanes (9) on the at least one road or street section (8), a width (11) of a lane (9) in which the vehicle (7) travels and a curvature of the at least one street or road section (8). Also dependent method claims 33 to 41 have been added, containing subject matter from the canceled dependent claims and also distinguishing the fixed first coordinate system from the coordinate system used in GPS.

III. Anticipation Rejection

Claims 1 to 3, 11, 12 and 16 to 18 were rejected under 35 U.S.C. 102 (b) as anticipated by Heimann, et al.

Claims 1 to 3, 11, 12 and 16 to 18 have been canceled, obviating their rejection as anticipated by Heimann, et al.

New independent device claim 42 includes the features and limitations of canceled claim 12, but also of claims 13 & 14, so that it avoids anticipation.

New independent method claim 19 includes features and limitations of canceled claim 1, but also of claim 5, which was not rejected as anticipated. New independent method claims 26 and 32 each include features and limitations from canceled claim 1, but also from canceled claim 6, which was not rejected as anticipated.

For the foregoing reasons and because of the additional limitations included in independent claims 19, 26, 32 & 42, it is respectfully submitted that none of the new claims 19 to 44 should be rejected as anticipated under 35 U.S.C. 102 (b) by Heimann, et al.

IV. Obviousness Rejections

Claims 4 to 6, 9 to 10 and 13 to 14 were rejected as obvious under 35 U.S.C. 103 (a) over Heimann '042 in view of Wilson, et al. Claims 1 to 18 have been canceled, obviating this 103 rejection.

1. Method Claims 19 to 25

Claim 19 claims the method according to canceled claim 1 plus the subject matter of claim 5 regarding the orientation of the vehicle in relation to a fixed first coordinate system. Wilson, et al, was cited as disclosing or suggesting this feature. However Wilson, et al, does not disclose or suggest that the vehicle position data includes information regarding orientation of the vehicle. A computer search of the Wilson patent reveals that the term "orientation" is never used in Wilson, et al.

The term "orientation" does not mean the same as "position". Otherwise claim 4 and claim 5 would be duplicate claims and those claims were not rejected as duplicate claims on formal grounds. The term "orientation" is similar to the term "course of the at least one road or street section", since it includes information regarding the direction in which the vehicle or the road or street section is headed. This information could be obtained from the "position determining device 4", since it is not limited to a GPS.

It is well established by many U. S. Court decisions that to reject a claimed invention under 35 U.S.C. 103 there must be some hint or suggestion in the prior

art of the modifications of the disclosure in a prior art reference or references used to reject the claimed invention, which are necessary to arrive at the claimed invention. For example, the Court of Appeals for the Federal Circuit has said:

"Rather, to establish obviousness based on a combination of elements disclosed in the prior art, there must be some motivation, suggestion or teaching of the desirability of making the specific combination that was made by the applicant...Even when obviousness is based on as single reference there must be a showing of a suggestion of motivation to modify the teachings of that reference.." *In re Kotzab*, 55 U.S.P.Q. 2nd 1313 (Fed. Cir. 2000). See also M.P.E.P. 2141

Wilson, et al, does not supply a hint or suggestion that the vehicle position data obtained from the position determining device 4 includes orientation of the vehicle.

For the foregoing reasons it is respectfully submitted that claims 19 to 25 should not be rejected as obvious under 35 U.S.C. 103 (a) over Helmann '042 in view of Wilson, et al.

2. Method claims 26 to 41

Method claim 26 claims the method according to canceled claim 1 plus some of the subject matter of claim 6 regarding the information, namely the road or street section description, obtained by the image producing device, particularly parking space information and cycle lane information. Wilson, et al, was cited as disclosing or suggestion a method including these features. However Wilson, et al, does not disclose or suggest any of these features. A computer search of the

Wilson patent reveals that the terms "parking" and "cycle" do not occur anywhere in Wilson, et al. Similarly there is no mention of the terms "parking" or "cycle" in Heimann, et al. Also with respect to the disclosure in Heimann, et al, note that the "traffic sign" information is not included in the information obtained by the image producing device according to new claim 26.

Heimann, et al, does disclose an electro-optic imaging device for collecting data regarding traffic signs (column 6, lines 26 to 32; column 2, line 54 to 60; column 3, line 51 to 57; column 4, lines 35 to 40). However this reference does not disclose or suggest using a video camera or imaging means to detect the other features disclosed in canceled claim 6. For that reason the term "traffic signs" has been omitted from both claim 26 and 32 above.

Similarly new method claim 32 claims a method in which "a course of the at least one road or street section" is included in the road or street section description produced by the image generating device 4. The "course" of a road or street section of course refers to its curvature or the direction it is headed at a particular position on the road or street.

Thus Wilson, et al, does not provide a hint or suggestion of any of the features of the method of canceled claim 6, *which have now been incorporated in new independent method claims 26 and 32*. Of course the term "traffic signs" has been omitted because of the disclosures in relation to "traffic signs" in Heimann, et al.

For the foregoing reasons and because of the additional limitations included in new claims 26 to 41, it is respectfully submitted that none of the new

claims 26 to 41 should be rejected as obvious under 35 U.S.C. 103 (a) over Heimann, et al, in view of Wilson, et al (U.S. '539).

In general, with respect to the methods claimed in claims 19 to 41, Wilson, et al, **teaches against** a method of updating a digital map by combining position data taken from a position measuring device, such as a GPS, which is mounted on a vehicle moving over the roads and streets of the digital map and image data produced by an imaging device, such as a camera. This teaching against the inventive methods of claims 19, 26 and 32 appears in column 2, line 8 to 20, especially lines 18 to 20, where it states that such a procedure is prohibitively expensive and requires manual encoding, instead of automatic data collection.

The fact that Wilson, et al, teaches that digital maps should not be updated in the manner according to new claims 19, 26 and 32 is strongly suggestive that the subject matter of these claims is not obvious. For example, the Federal Circuit Court of Appeals has said:

"That the inventor achieved the claimed invention by doing what those skilled in the art suggested should not be done is a fact strongly probative of nonobviousness." in *Kloster Speedsteel AB v. Crucible Inc.*, 230 U.S.P.Q. 81 (Fed. Cir. 1986), on rehearing, 231 U.S.P.Q. 160 (Fed. Cir. 1986)

For the foregoing reasons and because of the additional limitations included in new claims 19 to 41, it is respectfully submitted that none of the new claims 19 to 41 should be rejected as obvious under 35 U.S.C. 103 (a) over Heimann, et al, in view of Wilson, et al (U.S. '539).

3. Device Claims 42 to 44

Device claim 42 includes the features of canceled claims 12 to 14. Only claim 12 was rejected as anticipated by Heimann, et al.

Device claim 42 is not obvious from a combination of Wilson, et al, with Heimann, et al, because one skilled in the art would not combine Wilson, et al, with Heimann, et al, because of the teaching against such a combination in column 2, lines 15 to 21, of Wilson, et al. Wilson, et al, only utilize position data, preferably obtained by means of the more accurate DGPS, explained in column 6, lines 36 to 45, because Wilson, et al, are primarily concerned with determination of lane position or boundaries, especially in a multi-lane roadway. Associated with this of course is the accurate determination of the centerline of a lane or roadway using averaging techniques (fig. 6, claim 17, and especially columns 4 and 5 of Wilson, et al.).

Without the image data-producing device of course there is no need for the correlation means.

In addition, neither reference, especially Heimann, et al, which is the only reference that utilizes data from an imaging processing device, discloses or suggests that road or street description obtained from the image processing means includes information regarding the course of the at least one road or street section. This feature is included in new device claim 42 and further defines the image processing device.

Thus even if a combination of Heimann, et al, and Wilson, et al, is forced without considering the teaching against the claimed invention these references

do not suggest all the features of the new claim 42.

For the foregoing reasons and because of the additional limitations included in new device claims 42 to 44, it is respectfully submitted that none of the new claims 42 to 44 should be rejected as obvious under 35 U.S.C. 103 (a) over Heimann, et al, in view of Wilson, et al (U.S. '539).

4. New dependent claim 23, 29 and 36

Claims 23, 29 and 36 include the feature claimed in canceled claim 7, which was rejected as obvious over Heimann, et al, and Kinoshita, et al. Currently this feature is not relied on to overcome the rejections of the main independent claims for the method. It is a feature of preferred embodiments and thus claims 23, 29 and 36 should be allowed because the claims they depend on should be allowed.

Furthermore Kinoshita, et al, discloses a driver-assist system to help prevent a driver from moving out of a lane, which includes a pair of CCD cameras and image processing means coupled with an alarm system. Kinoshita, et al, do not disclose any means for up-dating a digital maps, comparison means or means for transmission of the digital map data to a central station.

Furthermore these new dependent claims 23, 29 and 36 state that "the road or street section data includes a statement regarding a course of at least one road or street section (8) in relation to said fixed first coordinate system (24)". According to e.g. claim 19 the "road or street section data" is produced by the "correlation means" and the correlating of step e). However Kinoshita, et al,

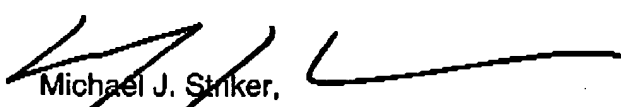
do not include a correlating step because Kinoshita, et al, are uninterested in correlating the data from the CCD cameras with the absolute position on the road or street section, since they are not interested in up-dating a digital map. Kinoshita, et al, do not generate any "road or street section data" by such correlating and thus Kinoshita, et al, cannot suggest the relationship of this data to the coordinate system.

For the foregoing reasons none of the new dependent claims 23, 29 and 36 should be rejected under 35 U.S.C. 103 (a) over Heimann, et al, and Kinoshita, et al.

Should the Examiner require or consider it advisable that the specification, claims and/or drawing be further amended or corrected in formal respects to put this case in condition for final allowance, then it is requested that such amendments or corrections be carried out by Examiner's Amendment and the case passed to issue. Alternatively, should the Examiner feel that a personal discussion might be helpful in advancing the case to allowance, he or she is invited to telephone the undersigned at 1-631-549 4700.

In view of the foregoing, favorable allowance is respectfully solicited.

Respectfully submitted,



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